Monday, June 29, 1936

2:00 o'clock p.m.

Court convened pursuant to adjournment.

PRESENT: Messrs. Norman S. Parker
Clarence E. Threedy

WHEREUPON the defendants, to maintain the issues on their behalf, introduced the following evidence, to wit:

LESLIE M. HANSEN,

called as a witness on behalf of the defendants, having been first duly sworn, testified as follows:

DIRECT-EXAMINATION
By Mr. Threedy:

MR. THREEDY: If the Court please, at this time I would like to file on behalf of the defendants, notice of use and prior art and also stipulation to amend the answer instanter, together with the amendment.

THE COURT: The motion will be allowed.

Q State your name, address and occupation.

A Leslie M. Hansen, 4743 North Kenton Avenue, Chicago, Illinois. I am employed as a draftsman and specification writer for the firm of Clarence E. Threedy, patent attorney, Chicago, Illinois.

Q How long have you been in the employ of Mr. Threedy?

A About four years.

Q Is the Clarence E. Threedy of whom you speak the attorney of record for the defendants in this case?

A He is.

Q Mr. Hansen, state in general detail your duties in the employ of Mr. Threedy.

A My duties in the employment by Mr. Threedy are specification writing and claim drafting. I also make Patent Office drawings for Mr. Threedy, and in making those drawings it has been a custom to use an actual model of the device on which the application is being made. In inking in these drawings it is my duty to read the specification and check the specification with the drawings to ascertain if all the reference characters and the description are proper with respect to each other.

Q Mr. Hansen, state in general detail your technical education.

A I am a graduate of a four-year course at the Lane Technical High School, after which I was employed for a period of about six years as a draftsman in an architectural firm in the City of Chicago. While in that employment I furthered my education at Armour Institute of Technology, where I studied civil engineering, and subsequent to that employment I came into the employ of Clarence E. Threedy as his patent draftsman.

Q About how long a period of time have you devoted to the writing of specifications for Letters Patent of the United States?

A About two years.

Q Have you ever appeared before as an expert in a patent case?

A Yes, I have; in the case of Dailey versus Lipman, Wolfe & Company.

Q When did you make that appearance?

A About two years ago.

MR. THREEDY: If the Court please, I tender Mr. Hansen as having been qualified as an expert to testify to the mechanical disclosures of the device in question.

THE COURT: I hear no objection.

MR. THREEDY; Q Mr. Hansen, are you familiar with the device of the defendants charged to infringe the patent in suit?

A Yes, I am.

Q Do you understand the construction and operation of the defendants' device?

A I do.

Q I will ask you to look at the drawing, Defendants' Exhibit A, and state whether or not you can identify that drawing?

A Yes, I can. I made that drawing.

Q State the conditions under which the drawing Defendants' Exhibit A, was prepared.

A I was requested by Mr. Threedy to make an enlarged detail drawing of the target structure of the defendants' device and Defendants' Exhibit A is the result of that drawing, or that work.

Q Then is the Court to understand, Mr. Hansen, that the device, or that part of the device illustrated in Defendants' Exhibit A, exemplifies the target mechanism or structure of the Defendants' device?

A Yes, it does.

Q Will you refer to the drawing, Defendants' Exhibit A, and explain to the Court the construction and function of that part of defendants' device illustrated in that drawing?

A Defendants' Exhibit A is an illustration of the target structure of defendants' device. It is shown mounted on a shelf 1 which is formed in the cabinet. Mounted on this shelf is a housing 2, having a tubular shaft 6 rotatably mounted therein, and fixed to this rotatable shaft 6 is a gearing 3 which meshes with a worm gear which is mounted on a driving shaft 5 for the rotation of the target structure by the use of a motor on the opposite end of the shaft 4.

Also mounted on this housing 2 is an electromagnet 25 which has an armature 24 which is of a solenoid type. This armature 24 is connected to one end of a rocker arm 22, which is pivotally mounted within that tubular shaft 6.

The opposite end of the rocker arm 22 is connected to a yoke member 19 and extending from the arms of the yoke member 19 are latch rods 18 which are mounted and guided in a hollow arm 9. These latch rods 18 are normally urged outwardly from this hub structure by a spring 21.

At the outer ends of the arm 9 there is rotabably mounted a disk 10 and this disk 10 has a notched portion 17 wherein the ends of the latch rods 18 may be inserted to latch the disk 10.

Mounted on this disk 10 is a target portion 11, having an aperture 13 and this target 11 is fixed to the disk 10 by a bolt having a weighted head. Connected to that weighted head is a spring which extends from the hub to the body of the arm.

Behind the aperture 13 is a lens 14 and behind that is a photocell 15. The lenses 14 and 15 are supported by a bracket 16, which, in turn, is supported by the arm 9.

Right in the hub structure is a non-conductive material in which is set a pair of contact rings 26 that rotate with the target structure and engagably in the grooves of the contact rings are a pair of contact fingers 27. There is a connection from the contact fingers to an amplifier and the contacts or holes on the photocell are connected by means of wires that are not shown here, to the contact rings 26, thereby connecting up your photocell through the fingers 27 to the amplifier.

In the operation of this structure, of course, the arms are rotating about this hollow tube or shaft 6, and in the playing of the game a beam of light is directed through the aperture 13 against the photocell and when the light impinges on the cell the impulse is transmitted into the amplifier circuit to actuate a relay and this relay, in turn, completes a circuit to the electric magnet 25. When the electromagnet 25 is energized it draws up on the solenoid 24 and this rocks the arm 22 in a counterclockwise direction and pulls down on the yoke member 19. In pulling down on the yoke member it pulls down on the latch rod 18 and pulls the end of the latch rod out of the notch 17 and the disk 10, and the target 11 is dropped into the position shown in dotted lines by means of the weight and the assistance of the spring and into the position shown in Figure 2.

Q Explain to the Court, Mr. Hansen, how the target 11 resumes its normal upright position.

A In the course of its rotation about the tubular shaft when the target that is in a hit position comes into its lowermost position, as here in the bottom of Figure 2, the weights will act by gravity to urge the target back into the normal position and the latch rods 18 will be urged out by the spring 21 into the notch on the disk and latch the target in its raised position, where it will again come up into the view of the player, as seen in Figure 1.

Q Now refer to the drawing, Defendants' Exhibit B, and state whether or not you can identify the same.

A Yes, I made that drawing.

Q Explain to the Court what Defendants' Exhibit B represents.

A This Defendants' Exhibit B represents an enlarged illustration of the device shown in Figure 3 of the patent in suit.

Q Explain to the Court, Mr. Hansen, that part of the device of the patent in suit illustrated in Defendants' Exhibit B as to its construction and operation.

A The illustration of Figure 1 is best for this purpose. It shows a pair of spaced rails 64 which are conductive of electrical current, and riding on the rails 64 are contacts 63 which are carried by the base 50 of the target structure. This base 50 is connected to a belt 51 which moves the target structure along the rails 64 in its movement in a horizontal movement about the guideways 64.

The target 48 is pivotally mounted on the base 50 as at 49 and has a depending arm 65 which rests against a trip rail 66 and this trip rail 66 is carried by an armature 67 which is pivotally mounted on a framework. The armature 67 is normally held in that position as shown in Figure 1 by a spring 68.

Adjacent the armature 67 on the framework is an electromagnet 69 which is connected up in an electrical circuit as shown in Figure 4 of the patent in suit.

The target 48 is provided with an aperture 61 and behind the aperture 61 is a photoelectric cell which is carried by the base 50 of the target structure.

In the operation of this structure a beam of light is directed through the aperture 61 and the target 48 impinges on the cell 62. This circuit is conveyed through the contact 63 and the contact rail 64 to an amplifier and the amplifier energizes the relay. This relay completes the circuit from the source of supply to the electromagnet 69 and the electromagnet 69 attracts the arm 67 and moves the trip rail in a direction toward the right. This will urge the contact arm 65 in a counter-clockwise direction to 49 and cause the target to take the position as shown in Figure 2, from which it can fall by gravity into the position shown in Figure 3.

In traveling across the horizontal direction the target structure will return in an inverted position and by gravity this target will again resume a vertical position and when it comes up on to the upper reach of the runners the target will again be in position as shown in Figure 7.

Q Will you look at Defendants' Exhibit H and advise the Court what Defendants' Exhibit H represents?

A This Defendants' Exhibit H represents the target structure of the defendants' device and the exact structure is shown in Defendants' Exhibit A.

Q Mr. Hansen, the description which you gave concerning the construction and operation of the device illustrated in Defendants' Exhibit A, is such description and operation applicable to the device illustrated by Defendants' Exhibit H?

A Yes, it is.

Q By the use of Defendants' Exhibit H, will you demonstrate to the Court the construction of the mechanism for controlling the target as illustrated in the exhibit, Defendants' Exhibit H?

A Structurally, this device of Defendants' Exhibit H is the same as the drawing which I have explained, Defendants' Exhibit A, with the exception that the photocell is omitted for purposes of simplicity. However, this device was hooked up for A. C. current and the motor cannot be operated, but a movement of the finger on this armature will explain the action of the electromagnet when a light impinges on the cell to cause current to flow through the amplifier and operate the relay, the relay, in turn, closing circuit to this magnet.

There is within this hollow arm a rod, the latch rod, similar to the latch rod 18, and there is a spring in there for urging the latch rod up into a notch in a disk.

In the operation, assuming that a beam of light has struck the photocell to actuate the relay and close the circuit to the electromagnet, the solenoid armature will be drawn upwardly as shown and will pull down on the latch rod 18, allowing the target to drop by action of the weight into the position as shown or as you see here.

Of course, in rotating around the pivot here, when the target assumes its bottom position, the weight will cause the target to fall into the vertical position by gravity and assume this position as it is set here.

Q Will you look at the model marked Defendants' Exhibit J, and state whether you can identify the same and if so, state to the Court what it represents.

A The model, Defendants' Exhibit J, is a model which was made from the drawing of Defendants' Exhibit B and as illustrated in Figure 3 of the patent in suit.

In this model the spaced rails are used to guide the target structure and there are some depending arms here which are used to hold the target structure on the tracks. They, of course, are not shown in Figure 3 of the patent in suit. The photocell is omitted for purposes of simplicity and the rail, the trip rail 66 of Figure 3 of the patent in suit, is this rail here (indicating), which is mounted on an armature of an electromagnet and riding across the horizontal plane. If a beam of light passes through the aperture and impinges on the cell an impulse is directed through a relay to close circuit to this electromagnet and the trip rail will strike the bearing arm on the target and cause the target to fall into a hit position.

In the travel of the target over the rails, when it returns it will fall by gravity and come back up on to the track, as you see, in a raised position.

Q By the use of the model Defendants' Exhibit J, demonstrate to and advise the Court whether or not you can manually strike the target into a hit position.

A Yes, you can; by just giving it a little push it falls by gravity into the hit position.

Q Applying that same question to Defendants' Exhibit H, can the target be moved into the hit position by your hand?

A No, it cannot. It cannot be moved into the hit position by hand.

Q Will you explain to the Court why that is, if you know.

A Because the end of the latch rod is inserted in the notch on the disk and thereby the disk is latched.

THE COURT: That is in the little groove?

A Yes, that is this groove here. It would be inserted in there and it would be impossible to move it independent of this shaft.

MR. THREEDY: Mr. Hansen, does the rod 18 of the device shown in Defendants' Exhibit A funcrion in any manner to push or strike or otherwise cause the target 11 to pivot into a hit position?

A No, it does not operate in that manner.

Q Can you assign a reason for that answer?

A Yes, I can. The latch rod 18 on Defendants' Exhibit A, which is an illustration of the defendants' device, the end of this latch rod 18 is disposed in a notch in a disk 10, and when the rod is withdrawn from this notch the target falls by gravity and the assistance of the weight member 12 and the spring 12'.

Q Does the trip 66 and the arm 67 of the device of the patent in suit, and as shown in Defendants' Exhibit B, function in any manner to releasably hold the target 48 against pivotal movement in the hit position?

A No, they do not function in that manner.

Q Can you assign a reason for your answer?

A Yes. Because a trip rail 66 normally bears against the bearing arm 65 of the target and when the electromagnet 69 is energized the trip rail is pushed against the depending arm 65 of the target and the target is urged into a position where it can fall by gravity into the hit position.

Q Advise the Court, Mr. Hansen, basing your answer upon your understanding of the defendants' device as shown in Defendants' Exhibit A and the device of the patent as shown in Defendants' Exhibit B, whether or not the following is a correct statement: That in Defendants' Exhibit B the trip rail 66 pushes the target toward the hit position, whereas in Defendants' Exhibit A the rod 18 holds the target against such movement?

A Yes, that is correct.

Q Referring to your reasons heretofore assigned, would you assign the same reasons for your last answer given to the last question?

A Yes; for the reasons I have already made known.

Q In Defendants' Exhibit B, what if anything, prevents the target 48 from moving in a clockwise direction?

A First of all, the target having a bearing arm 65, which rests against a trip rail 66, prevents the target from moving in a clockwise direction when in vertical position, as shown in Figure 1. Also, if the target fell in that direction, it would eventually rest against the photoelectric tube 62.

The illustration of Figure 3 of the patent in suit indicates a little member between the target member and the photoelectric cell which I have indicated as S on Figure 1 of Defendants' Exhibit B, and, in my opinion, this member which I have marked S is used to prevent the target from falling in a direction clockwise as shown in Figure 1.

Q What, if anything, in Defendants' Exhibit B, which illustrates Figure 3 of the patent in suit, prevents the target from moving in an anti-clockwise direction?

A Nothing prevents it from moving in that direction.

Q Mr. Hansen, in your opinion, is the functional relation between the rod 18 and the disk 10 and target 11 of Defendants' Exhibit A different from or the same as the functional relationship between the trip 66, arm 67 and the target 48 of the device of Defendants' Exhibit B?

A The functional relation of the parts that you have just named are different. The relation of the latch rod 18 in Defendants' Exhibit A is one for latching the target in its raised position and the function of the trip rail 66 on Defendants' Exhibit B is for urging the target into the position where it might fall by gravity into the hit position.

Q Mr. Hansen, when the free end portion of the rod 18 of Defendants' Exhibit A is disposed from engagement with respect to the notch 17, what happens to the disk 10 shown in Defendants' Exhibit A?

A When the latch rod is withdrawn from notch 17?

Q That is right.

A When the latch rod is withdrawn from the notch, the target 11 will rotate and drop into the position shown in dotted lines or shown in solid lines on Figure 2, by action of the weight 12 and the spring 12'.

Q When that action takes place, what causes the target to move into that position, speaking of Defendants' Exhibit A?

A Gravity. The action of the weight 12 and the spring 12' and gravity will cause it to fall.

Q What is the direction of movement of the rod 18 with reference to the disk 10 as shown in Defendants' Exhibit A?

A The latch rod 18 moves out of the notch 17. The rod 18 moves away from the disk.

Q When the coil 69 of Defendants' Exhibit B is energized, what is the direction of movement of the arm 67, the trip 66 with reference to the arm 65 of the target 48 of Defendants' Exhibit B?

A When the electromagnet is energized it draws the arm 67 toward the magnet and pushes the trip rail 66 against the bearing arm 65.

Q Does the trip rail 66 at any time move away from the depending arm 65 when the coil 69, Defendants' Exhibit B, is energized?

A No, it does not.

Q Will you advise the Court whether or not the following language is an apt description of the device illustrated in Defendants' Exhibits B and J: "A movable target having an aperture, a drop operatively associated with the target and means for releasably holding the drop in raised position."

A No, that is not an apt description of the device of Defendants' Exhibit B and Defendants' Exhibit J.

Q Can you assign a reason for your answer?

A Because there is no drop associated with the target.

Q Advise the Court whether or not the following language is an apt description of defendants' device: "A movable target having an aperture, a drop operatively associated with the target and means for releasably holding the drop in raised position."

A No. That is not an apt description of the defendants' device.

Q Can you assign a reason for your answer?

A Because there is no drop associated with the target.

Q State whether or not, in your opinion, the target mechanism of defendants' device is or is not functionally different from the target mechanism of the device of the patent in suit, and give your reasons for your answer.

A The target structure of the defendants' device is different from the target structure of the device of the patent in suit, because the target 11 of defendants' device is releasably held in a raised position by the latch rod 18, whereas the target 48 is held in a raised position and it has to be struck into the hit position by the trip rail 66.

Q Referring to Defendants' Exhibit B, do you find in the structure there illustrated a means for releasably holding the target 48 in a raised position?

A No, I do not.

Q Mr. Hansen, will you look at the drawings marked Defendants' Exhibits D and E, and state whether or not you can identify the same, and if so, state what they represent.

A I made those drawings and the drawing shown in Defendants' Exhibit D is a portion or a part of the wiring diagram illustrated in Figure 4 of the patent in suit and includes the signal circuit of the patent in suit. The drawing Defendants' Exhibit E is a circuit showing a signal connected to the output side of an amplifier.

Q Now, referring to the drawing Defendants' Exhibit D, explain to the Court the signal circuit there shown.

A Defendants' Exhibit D shows a 110-volt input the source of supply, which is conducted through a relay A to part of the diagram shown in Figure 4 of the patent in suit, and this conductor goes through the switch of the relay 79 and a conductor from that switch, which conductor is 41, runs through a primary winding of a transformer 84, and from that primary winding through 42 back into the input of the current. The secondary windings of the transformer 84 are connected directly to a magnet for operating the bell 83.

Q Now will you refer to the drawing Defendants' Exhibit E, and also explain the signal circuit there illustrated.

A Defendants' Exhibit E shows a signal circuit which obtains its source of supply from the outward side of the transformer and shows a conductor 42' which is connected to the primary winding on the transformer 84' and through the latter by way of 41' and back into the output of the amplifier. The secondary winding of the transformer 84' is connected directly to a magnet which operates the bell 83'.

Q Referring to Defendants' Exhibit D, is the signal 83 of circuit 1 there illustrated in circuit with the amplifier 80?

A No, it is not.

Q Referring to Defendants' Exhibit E, is the signal 83' of circuit 2 there illustrated in circuit with the amplifier 80'?

A Yes, it is connected to the output of the amplifier.

Q In the circuit illustrated in Defendants' Exhibit D, is the signal 83 actuated by current from the photoelectric cell amplifier 80?

A No, it is not. It is actuated by the current from the input 110-volt line as shown in green lines.

Q What, if anything, in Defendants' Exhibit D is actuated by the current from the photoelectric cell amplifier?

A A relay 79 is energized when the current flows through the amplifier 80 and this closes a switch, which completes the circuit from the 110-volt input into the signal means 3.

Q Referring to Defendants' Exhibit E, is the signal 83' actuated by current from the photoelectric cell amplifier 80'?

A Yes, it is.

Q Is the Court to understand, Mr. Hansen, that the circuit Defendants' Exhibit D is illustrative of that part of the circuit of Figure 4 of the patent in suit in which the signal 83 of the device of the patent in suit is incorporated?

A Yes, that is correct.

Q State whether or not the following language is an apt description of any part of the circuit illustrated in Defendants' Exhibit D: "Signal means actuated by the current from the photoelectric cell amplifier"?

A No, that is not an apt description of that circuit.

Q Give the reasons for your answer, if any.

A Because the signal 83 of that circuit is actuated by a current from the 110-volt input.

Q Does the defendants' device include a signal to indicate a hit when a light impinges upon the photocell?

A Yes, it does.

Q Does the defendants' device include a photocell amplifier?

A Yes, it includes that.

Q State whether or not the signal of defendants' device is or is not in circuit with the photocell amplifier.

A No. The signal of defendants' device is not in circuit with the amplifier.

Q State whether or not the signal of the defendants' device is actuated by current from the photoelectric cell amplifier.

A No, it is not. The signal in the defendants' device is actuated by a current from the 110-volt input.

Q Mr. Hansen, I read to you from claim 1 of the patent in suit and will ask you to state whether or not the following language, "Signal means actuated by the current from the photoelectric amplifier," is an apt description of the signal of defendants' device?

A No, that is not an apt description of the signal of the defendants' device.

Q Give your reasons for your answer.

A The signal of the defendants' device is actuated by current from the 110-volt line.

Q Mr. Hansen, will you look at the drawing marked Defendants' Exhibit C, and state whether or not you can identify the same and if so, explain to the Court what it represents.

A Defendants' Exhibit C is a drawing I made of an electrical circuit of the defendants' device, having embodied in it the trigger switches on the defendants' gun. It illustrates the operation of the trigger switches on the gun with respect to the target mechanism.

Q What does the letter L on defendants' Exhibit C represent?

A The letter L represents a light source in the gun.

Q Explain the circuit of the light source L as shown in Defendants' Exhibit C.

A The light source is embodied in a circuit shown in red, which receives its source of supply directly from the secondary windings of a transformer T. The primary windings of the transformer T are connected to the 110-volt input and this circuit is controlled by a shot-limit switch on a shot-counter mechanism.

Q What do the characters T-2 and T-3 of Defendants' Exhibit C represent?

A T-2 and T-3 represent trigger switches on the gun of the defendants' device.

Q Explain their circuit connections.

A The trigger switch T-2 is in a circuit shown in green, which receives its source of supply from the 110-volt line, and this circuit flows from the 110-volt line through the switch T-2 and into the windings of a solenoid on a shot-counter mechanism and back through the shot-limit switch to the 110-volt input.

The trigger switch T-3 is in a circuit shown in purple, which receives its supply of current from the 110-volt line and which is conveyed through the switch on the amplifier relay and through the coil of a fraud-preventive relay and the shot-limit switch back into the 110-volt line.

Q What does the letter C of Defendants' Exhibit C represent?

A The letter or character C represents a master switch, which is a coin-controlled switch, and this switch is in a circuit shown in brown, which receives its source of supply from the 110-volt line to convey current through a pair of reset magnets M and directly back into the 110-volt line.

Q What is the function of the coin-controlled switch C of Defendants' Exhibit C?

A The function of the switch C is to set the machine up into starting position. That is, when a coin is inserted into the coin chute and the coin chute is pushed in, the switch C closes and completes the circuit through the brown lines into the reset magnets M and back into the 110-volt line. When the reset magnets M are energized the shot-counter mechanism and the score-counter mechanism are each returned to a starting position and the machine is prepared for operation.

When the shot-counter mechanism returns to a starting position, the shot-limit switch on the shot-counter mechanism closes and the current will flow from the 110-volt line through the several circuits which I have already explained.

Q Do the trigger switches T-2 and T-3 have any functional relation with the light L in so far as effecting completion of a circuit between the light L and a source of supply?

A No, they do not function in that manner.

Q What effects completion of a circuit through the light source L as shown on Defendants' Exhibit C?

A When the shot limit-switch is closed to complete the circuit into the red lines, the primary winding of the transformer T is energized and the secondary windings of the transformer T supply the current directly through the light source in the gun. This current flows as long as the shot-limit switch is in a closed position.

Q If the shot-limit switch of Defendants' Exhibit C is not closed, will the operation of either the trigger switch T-2 or the control switch T-3 function to effect completion of a circuit through the light source?

A No, they will not function in that manner if the shot-limit switch is opened.

Q Advise the Court whether or not the operation of the shot-limit switch that you speak of in completing the circuit through the light source L is dependent on or independent of the trigger switches T-2 and T-3 of Defendants' Exhibit C?

A The operation of the shot-limit switch is independent of the operation of the trigger switch T-2 or T-3.

Q Then if the trigger switches T-2 and T-3 were removed and you were to operate the shot-limit switch, advise the Court whether there would be a circuit completed through the light source L as shown in Defendants' Exhibit C.

A If the shot-limit switch were closed, the current would flow through the red lines to supply current into the light source in the gun.

Q What does that function demonstrate to you, Mr. Hansen?

A That the operation of the trigger switch T-2 and T-3 does not effect the completion of the circuit to the light source in the gun.

Q I read to you from claim 2 of the patent in suit and ask you to state whether or not this description is applicable to any part of the circuit illustrated in Defendants' Exhibit C, which circuit you have testified is representative of the circuit of the defendants' device: "A trigger switch on a gun for effecting completion of a circuit through a light source"?

A That is not an apt description of the device illustrated in Defendants' Exhibit C, because there is no switch on the gun for effecting completion of the circuit to the light source in the gun.

Q Are you familiar with the gun apparatus of the defendants' device, Mr. Hansen?

A Yes, I am.

Q I hand you Plaintiffs' Exhibit 35 and ask you to state whether or not the gun there illustrated is representative of the defendants' gun?

A Yes. This illustration represents the defendants' gun.

Q Briefly explain the operation of defendants' gun as shown in Plaintiffs' Exhibit 35 to the Court.

A In the operation of this gun, the trigger IV^2 is drawn backward or to the right by the trigger finger and it moves a trigger carriage in that direction. There is mounted on that trigger carriage a pivoted member which has a little latch which fits into the opening in an intermediate carriage and this intermediate carriage carries a pivotal member which has a cam portion which is engagable with the depending extension of a shutter IV^3.

When the trigger is pulled to the right all these carriages move to the right until the cam portion of this member is brought into a position to the right of the depending arm of the shutter, and when the carriages are in that position a spring, which is not shown here, will pivot this pivotal member so that the cam rides on this long rail. When that happens the extension on the pivotal member will disengage the latch from the groove in the intermediate carriage. The trigger will be drawn back and the intermediate carriage will be released for return movement independent of the trigger carriage. In returning the cam of this pivotal member will strike the depending arm and trip the shutter into a position where the beam of light can pass through the barrel of the gun.

The action of that shutter is instantaneous, the cam only striking the depending arm and allowing the target to move down and immediately to move right up again.

Q Does the gun illustrated in Plaintiffs' Exhibit 35 illustrate the trigger switch for effecting completion of a circuit through a light source?

A No, it does not.

Q Does the defendants' gun include shot-limiting means associated therewith?

A No, it does not.

Q Is this description, which I read to you from claim 11 of the patent in suit, an apt descripion of the defendants' gun: "Shot-limiting means associated with the gun"?

A No, that is not an apt description of the defendants' device.

Q With what is the shot-limiting means of the device of the patent in suit associated?

A The shot-limiting means of the patent in suit is associated with the shot-counter mechanism.

Q Mr. Hansen, I hand you Plaintiffs' Exhibit 37 and I will ask you to advise the Court whether or not the following statement, which appears on that exhibit, when considered in view of the device shown in Plaintiffs' Exhibit 34, is correct: "Fixed contacts between photoelectric amplifier and drop holding means"?

A No, that is not a correct notation.

Q This is Plaintiffs' Exhibit 34 which I hand you. State whether or not the following statement, "Target drop solenoid energized by hit," appearing on Plaintiffs' Exhibit 37 is correct when considered in view of Plaintiffs' Exhibit 34?

A No, that is not correct in view of Plaintiffs' Exhibit 34.

Q I hand you Defendants' Exhibit 34 for identification, and will ask you if you can identify the same?

A Defendants' Exhibit 34 is a photograph of a drawing which I made of the defendants' wiring diagram of the defendants' device.

Q Do you find on Defendants' Exhibit 34 for identification a circuit defined by letter characters A to N, inclusive?

A Yes, I do.

Q Advise the Court whether or not the circuit indicated by the letters A to N inclusive, is a correct circuit of defendants' device in which a signal is incorporated?

A Yes it is; it is correct.

MR. THREEDY: The witness is ready for cross-examination.

THE COURT: Suppose we take a recess for a few minutes.

(A short recess was taken)

THE COURT: You may cross-examine.

CROSS-EXAMINATION

By Mr. Parker:

Q Mr. Hansen, will you please state as fully as you can your experience in electrical work?

A I have not had any experience in electrical work as a profession. I can read electrical diagrams from my experience as a patent draftsman and from my experience as a draftsman in general.

Q How have you acquired your understanding of the electrical terminology used, for example, in such a case as this?

A I have acquired my knowledge through my playing around with electrical hook-ups and things of that nature, and reading patent applications, soft copies, and things of that nature, stydying the terminology used in specifications.

Q You mean in the course of your work in Mr. Threedy's office?

A Yes.

Q When you testified concerning Defendants' Exhibit A, you used the term, "target portion." What did you mean by that term?

A The target 11 as indicated on the drawing.

Q What do you mean by the word "portion," portion of what?

A I do not recall using that term. If I did use it, I meant to say the target 11.

Q You mean you did not mean to use the term "portion"?

A No, I did not.

Q Is that a term that is used in the patent in suit, by any chance?

A I do not think it is, Mr. Parker.

Q Have you a copy of the patent before you?

A (Witness produces paper)

Q Will you please read the sentence which begins in line 5 of the second column of page 1 of the patent?

A Line 5 on the second column?

Q Yes, the sentence beginning in the middle of the line.

A "In the present," is that the place?

Q Yes, that is the line.

A (Reading):

> "In the present disclosure, this target is of the traveling type and is provided with a plurality of target portions 48 which may simulate ducks, said target portions being pivoted at 49 upon bases 50"

Q Please read the sentence which begins at the beginning of line 32 of the second column of the first page.

A (Reading):

> "Each target portion 48 is equipped with an

> arm 65 and during travel of said target portions with the upper reach of belt 51, said arm lies against or near a trip rail 66 which is carried by an arm 67 hingedly mounted on the base 56."

Q In the first column of the same page, starting, I believe, in line 46, will you please read the sentence or the portion descriptive of Figure 3?

A (Reading):

> "Fig. 3 is a vertical transverse sectional view through the upper portion of the traveling target showing one of the movably mounted target portions, the photoelectric cell associated therewith, and the means for effecting movement of said target portion to a 'struck' position if the aim of the gun be so accurate as to cause the light flash to strike the photoelectric cell."

Q Now, on the basis of these quotations you have read from the patent in suit, would you say that the patentee limited the use of the term "target" to the portion of Defendants' Exhibit A which moves with the disk 10?

MR. THREEDY: I believe, if the Court please, that question is objectionable. It is not proper cross-examination and the witness is not competent to testify.

MR. PARKER: This witness testified concerning his interpretation of this patent.

MR. THREEDY: Not as to the intention of the patentee. That is a matter for the Court to gather from the testimony.

THE COURT: I think the objection is well taken. Sustained.

Q Referring to the structure of Defendants' Exhibit A, assume that the target structure is ready to be shot at. In other words, that the operator has put his nickel in the switch and the gun is ready to operate. When the operator shoots and if he is fortunate enough to hit the cell shown at 15, what happens to the hinged portion of the target?

A When the beam of light flashes on the photocell, current is directed into the amplifier and actuates a relay and this relay, being actuated, completes circuit into the electromagnet 25 to withdraw the latch rod 18 from the notch in the disk allowing the disk and the target and the weight to fall by gravity into the position shown in Figure 2.

Q Is it correct to say that after the photocell is struck by a flash of light from the gun, the target portion falls?

A Yes, in view of what I said before --

Q Just limit your answer. That is a question that can be answered yes or no.

A Yes.

Q It falls?

A It falls.

Q Referring to Figure 3 of Griffith patent, as shown, for example in Defendants' Exhibit B and referring to Figure 1 of that exhibit, I see a portion 48, which you read from the patent as describing the target portion, that is shown in upright position, is it not, in Figure 1 of that exhibit?

A That is right.

Q When a flash of light reaches the cell 62 from the gun of the operator, please state whether or not the target portion 48 falls. Answer yes or no.

A The target portion does not fall. It is struck.

Q Does it remain in upright position?

A No, it does not remain in upright position. It is struck.

Q When it is struck, does it fall?

A When it is struck it falls.

Q Then it falls?

A Yes.

Q I notice on Defendants' Exhibit B, Figure 1 of that exhibit, a part which is given the letter S. Do you find that letter S applied to that part in the patent in suit?

A No, I do not.

Q Do you find in the patent in suit, and if you can I wish you would read it, any specific description of the part that you have indicated by the letter S?

A There is nothing in the specification of the patent in suit which relates to the description I have given to the part

I have marked S. It is my opinion that that part acts as it does --

Q You base that solely on your reading of the drawing itself?

A The reading of the drawing and the reading of the operation of the device, knowing that the target should be restrained from movement against that tube, as for instance, in its return movement on the bottom reach of the rails, when the target moves by gravity into its vertical position, if there were nothing there to stop the target in that movement it would strike that photocell and injure it. Therefore, it is my opinion that there must be something there to stop that movement.

Q But there is nothing said in the patent about that part or any function for it; is that correct?

A No, nothing in the specification.

Q I notice in Figure 1 of Defendants' Exhibit B, the arm 65, which apparently is unitary with this target portion 48 and which extends down below the base 50 of the target on which this cell 62 is mounted. Will you please state whether or not this lever 65 or arm 65 is in contact with the rail 66 as shown in the exhibit.

A Yes, it is as shown in the exhibit.

Q Is that the way it is shown in the patent in suit in Figure 3?

A In Figure 3 it is shown bearing against the trip rail 66.

Q Now referring to Defendants' Exhibit J, you may examine it if you want to, and tell me whether or not the depending arm from the target portion of the duck is in contact with the corresponding rail?

A No, it is not in contact with the rail. It is near the rail, though.

Q But it is spaced away from it?

A It is.

Q Referring again to Figure 1 of Defendants' Exhibit B, assume that all the parts in that figure are left precisely in their present position, but that this little part you have marked S is removed, what change, if any, will that make in the position of the target portion 48?

A It would not change the position of the target portion 48.

Q In other words, assuming that the target portion 48 is upright as shown there, the rail 66 in cooperation with the arm 65 would continue to hold that target portion in an upright position?

A Yes; the connection of the rail 66 with the arm 65 would hold the target in that raised position. That is, it would hold it from movement in a clockwise direction.

Q What is there which would tend to move it in a clockwise direction, referring to the exhibit and to the parts in the position in which they are shown in that figure?

A Its own physical qualities. You will notice in that drawing the target extends from the right hand side of the pivotal mounting and is concentric to the mounting. Therefore, the weight of the target is urging the target in a clockwise direction.

Q Do you mean that this is a fair statement, that the target is so positioned in relation to the pivot 49, about which it rotates, that when it is in upright position it is gravitationally held upright by the interposition of the rail 66?

A No, I wouldn't say that.

MR. PARKER: Please read that question.

(The last question was read)

A My answer to that is, the target is held by the trip rail 66 in a raised position against movement in a clockwise direction around the pivotal mounting, which might be by gravity in that direction, as I have explained.

Q The rail 66 would be effective to do that, then?

A The rail 66 would prevent that movement; yes.

Q And hold it in upright position?

A Yes, against movement in a clockwise direction.

Q Assume the operator now shoots the device and is fortunate enough to hit the photoelectric cell. What then happens to the rail 66?

A The rail 66 is moved from left to right and is caused to bear against the depending arm 65 of the target and urge the target into the position as shown in Figure 2, which is in a counter-clockwise direction, and when it assumes that position of Figure 2 it falls by gravity into the position shown in Figure 3.

Q You used the term "release" in connection with your testimony and in connection with these exhibits and in connection with plaintiffs' and defendants' structures. How do you interpret the term "release"?

A The term "release" would be defined as something which would liberate, or when liberated would allow a movement of something which is liberated.

Q Well, referring to the Defendants' Exhibit B, Figure 2, would you say that the drop or target portion was released?

A The target portion 48 is not released; no.

Q What keeps it from release, what holds it in position then? I am referring now to Figure 2 of the exhibit.

A What keeps it from release?

Q You said it was not released.

A Well, it is not released. The action of the trip rail 66 is a striking action and it is urged rather than released.

Q You said when it was moved over it would fall by gravity.

A When it is urged into the position shown in Figure 2 then it might fall by gravity into the position of Figure 3.

Q You still feel that it is not released to fall into the position of Figure 3?

A Yes, I still feel that way.

Q In other words, when it has been moved over, gravitated over center, and nothing keeps it from falling, and it falls by gravity, you still say it has not been released?

A No, because it was not held in the first instance.

Q If it was not held in the first instance, why did it not fall over?

A Let me explain. In order for it to be released, according to the definition I have given, the trip rail 66 would have to be liberated, would have to move away from it and allow it to fall of its own physical properties into the hit position.

Q Assuming that the parts are in the position in which they are shown in Figure 1 of Defendants' Exhibit B, and you remove the part lettered S, and at the same time remove the trip rail 66, what will happen to the target portion 48?

A The target portion 48, if it does not remain in its raised position, would move into the position against the photoelectric cell 62.

Q Is there anything shown in Figure 1 of Defendants' Exhibit B, except this rail 66 and visible part S, which would keep it from falling?

A No, there is nothing shown.

Q Now referring to the machines of plaintiffs and defendants, I understand you are thoroughly familiar with the defendants' machine?

A I am; yes.

Q And with plaintiffs' patent in suit?

A Yes, I am.

Q When a nickel or a coin is put in the slot and the coin-controlled switch 70 of the patent in suit is closed, please state what happens in the normal operation of the device.

A When the coin is put in the coin slot and the switch 70 is closed, current flows from the 6-volt supply along line 11 into a coil of a magnet marked C-2' and through line 10, through the coil of an electric magnet A and by way of the line 8 and 7 through the switches 70 and by way of the line 2 back into the source of power 6 volts D.C.

The current supplied to the electromagnet C-2' attracts an arm which carries a detent 77 from engagement with a ratchet 76 and allows a spring 78 to urge an arm 75 of a switch over the contacts 74 up to the position shown in dotted lines on Figure 4 of the patent in suit, and simultaneously the electromagnet A is energized, pulling up its armature and closing an electrical circuit which flows from 110-volt line by way of a conductor 16, 18, through the switch of the electromagnetic relay A and into the primary winding of a rectifier 81 by way of electrical wires 21, 22 and 17 back into the source of supply, setting up the entire apparatus into a starting position.

Q When a coin is inserted and the coin-controlled switch 70 is closed, is it a fact that the reset magnet C' returns the shot-counter structure to initial position?

A The reset magnet C-2' attracts the detent.

Q I mean C-2'.

A Yes; attracts the detent and releases the switch 75 to return into the starting position.

Q With respect to defendants' structure, when the coin-operated switch of defendant is operated, is it a fact that defendants' shot-limiting means also thereby moves to initial position?

A When the reset magnet of the defendants' device, the shot-counter mechanism of the defendants' device is operated or returned to initial position, it returns a cam to initial position and this cam closes the shot-limit switch.

Q This takes place at the time that the coin is inserted?

A Upon the operation of the coin chute.

Q Then is it a fact that in both mechanisms, the mechanism of the patent in suit and defendants' mechanism, the result of the insertion of the coin and the actuation of the coin switch is to return the shot-limiting or shot-counting mechanism to initial position?

A Yes, that is a fact.

Q When the coin is inserted and the coin-operated switch is closed in the patent in suit, is it a fact that the motor M which drives the moving targets then begins to rotate and drive the targets?

A Yes, that is a fact.

Q Is it a fact that in defendants' structure when a coin is inserted and the coin switch is closed defendants' target motor also begins to rotate and defendants' targets begin to move?

A When the shot-limit switch --

Q When the coin is inserted --

MR. PARKER: Read the question.

A When the coin is inserted -- May I have the question?

MR. PARKER: Just read the question.

(The second preceding question was read)

A When the coin chute of the defendants' structure operates its coin switch, the shot-counter mechanism is returned to a starting position to close the shot-limit switch and current is conveyed through the shot-limit switch to the motor of the defendants' device to operate the targets.

Q Then it is correct, is it not, that in both structures a result of the operation of the coin switch is to start the targets in motion?

A Yes, that is correct.

Q Referring again to the patent in suit, it is correct, is it not, to say that the closure of the coin-operated switch places the gun circuit for the lamp 46 ready for actuation, so that when the trigger is pulled the lamp is flashed on and quickly off?

A Yes, that is a fact.

Q Is it a fact that in defendants' structure another result of the actuation of the coin switch is to illuminate the light source in the gun so that it is ready to emit a flash in response to the ensuing trigger pull?

THE WITNESS: May I have that question read again, please?

(The question was read)

A Yes, it is a fact that an operation of the coin switch of the defendants' device results in a completion of a circuit to the light source in the defendants' gun.

Q Is it a fact that when this circuit is completed the light is ready to emit a flash in response to the ensuing trigger pull?

A The light is on constantly; yes.

Q Then it is ready for the operator to shoot a flash in response to each trigger pull?

A It is ready, so that when the shutter opens on the gun a beam of light may pass through the barrel of the gun.

Q When the operator of the structure of the patent in suit pulls the trigger, is it correct to say that a flash of light of short duration is projected from the gun?

A Yes, that is a fact.

Q Is it a fact that in the structure of the patent in suit when the trigger is pulled the thud-sounder 82 operates?

A Yes, that is a fact.

Q Is it a fact in connection with defendants' device, that when the operator pulls the trigger a flash of light of short duration is discharged from the gun?

A Yes, that is correct.

Q When the operator of defendants' device pulls the trigger is it correct to say that a tnud-sounding mechanism in or associated with defendants' cabinet, sounds?

A Yes, the thud-sounder sounds.

Q Now assume that the operator of the gun of the patent in suit has an aim sufficiently good to strike the cell 62 with a flash of light. What effect has this flash of light on the relay 79 shown in Figure 4?

A The flash of light on the photocell has no effect on the relay 79. It merely -- Pardon me. The flash of light has no effect on the relay 79 but completes the circuit through the amplifier and the amplifier affects the relay 79 and energizes it.

Q Are any means shown for energizing the relay 79 except the photoelectric cell and the amplifier associated with it?

A No. Both parts work together to energize the relay 79.

Q Then is it correct to say that when the cell 62 is energized a result of this energization is the energization of the relay 79?

A Yes, that is correct.

Q What is the effect of the energization of the relay 79 in this fashion?

A The relay 79 will pull up its armature and close the switch in another circuit.

Q What is the effect of closing this other switch?

A The closing of the switch in that other circuit completes that circuit so that current may be conveyed along the line 16 from the 110-volt input through the line 18 in the switch of the relay A, back through another switch of the relay A and by way of a line 40 through the switch on the relay 79 into a conductor 41, which is connected to the primary winding of a signal transformer 84, and from the primary winding by way of 42 back into the source of supply.

The current flowing into the transformer 84 energizes the secondary winding of that transformer and actuates the coil of a bell 83.

Q Referring to Defendants' Exhibit E, signal circuit No. 1, where does the current flow from which flows through the coil of the relay 79?

A The current to the relay 79 flows from the amplifier 80.

Q Would you describe that as current from the amplifier?

A Yes, I would.

Q Now referring to Defendants' Exhibit C and to the amplifier relay shown in the lower right hand corner, does that represent or include a coil?

A The relay?

Q Yes.

A Yes, there is an electrical coil in that relay.

Q Where does the current flow from which energizes that coil?

A The current that energizes the coil in the amplifier relay comes from the amplifier circuit.

Q Then in both the patent in suit and in defendants' structure, a result of a hit is the flow of current from the amplifier through a relay; am I correct?

A That is correct.

Q And the effect of the energization of the coil of the relay in the patent in suit and also in defendants' structure, is to close another circuit; am I correct?

A That is correct.

Q Am I right in understanding your earlier answers on direct-examination to be to the effect that in both plaintiffs' device and defendants', the current which flows through the circuit closed by the amplifier relay is line or 110-volt current?

A The circuit completed from the relay closes?

Q Yes.

A Is a circuit receiving it its source of supply from the 110-volt line.

Q And that is equally true of the structure of the patent in suit and defendants' structure?

A Yes, as shown on Defendants' Exhibit D.

Q Now assume that the user of either machine scores a hit. The result of that hit, if I understand you correctly, is to close the amplifier relay and thereby to close a circuit along which 110-volt current flows from outside the target range as a whole?

A Yes, that is right.

Q Am I right in understanding, referring for example to Defendants' Exhibit C, that one of the results of this passage of 110-volt current is to actuate a shot-limit switch controlling means?

A Ultimately, yes. The first action which takes place is the energization of a fraud-preventive relay, which in turn, closes a circuit to the signal of the defendants' device.

Q Disregarding the intermediate circuits which you have already pointed out in detail on your direct-examination, please state the ultimate results in defendants' machine when the photoelectric cell is excited by a flash of light directed by the user from the gun.

A The flash of light impinging on the cell?

Q I want to know the ultimate results without tracing it through the intermediate wiring.

A The ultimate result is the completing of a circuit through a signal and the ringing of a bell or the sound of a gong and the actuation of a score-counter mechanism to register a hit on a bank of lights and the energization of an electromagnet, which is the electromagnet 25 of Defendants' Exhibit A, to release the target so that it may fall into a hit position.

THE COURT: Will this be a convenient place to suspend?

MR. PARKER: I think it will, your Honor.

THE COURT: We will suspend until 10:30,tomorrow morning. The court will adjourn now.

WHEREUPON an adjournment was taken until
Tuesday, June 30, 1936, at 10:30 o'clock a.m.